

Tyre age – and the effect on performance and safety

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There are a number of great articles on our MX-5 Club website about tyres including the one by former Club member Rob Spargo¹ explaining tyre size and markings.

There's also an article about tyres and rims² by former Club Captain - Motor Sport, Robert Downes, and a further article on the pitfalls of cheap tyres³ by Colin Jevons.

A car's tyres are the one and only thing that keep your car in contact with the road. It doesn't matter how high-tech the vehicle is or how expensive its components are, if the tyres are not up to standard then the vehicle's safety is immediately compromised.

One aspect of tyre ownership not covered by the above articles is the effect of age and how tyre performance degrades over time.

The main reason is due to the oxidation process. As rubber is exposed to oxygen, it dries out and starts to crack. As the tyres become hard their ability to grip the road decreases, irrespective of the amount of tread the tyre has. In extreme situations the tyre can develop internal cracks and from there the possibility of a blowout.

Generally tyres last about six years before they start to lose performance. Any tyre more than 10 years old should be replaced. The first place you would notice a loss of grip is on a wet or slippery surface!

How do we tell how old the tyre is? From the early '90s, tyre manufacturers started moulding dates into the sidewall of tyres. Due to operator safety, dates are only moulded into one side of the tyre. This mould date consists of four digits; the first pair indicates the week and the second pair is the year of manufacture. If the tyre has only three digits, it was manufactured before 2000 and should definitely be replaced. ■

¹ www.miata.net/garage/KnowYourCar/S5_Tire.html

² http://mx5vic.org.au/wp-content/uploads/2013/03/tyres_and_rims.pdf

³ <http://mx5vic.org.au/wp-content/uploads/2014/06/Cheap-tyres.pdf>

The mould date on this tyre is week 16 of year 2004.



This tyre was manufactured on week 40 of year 1998.



Tyre replacement for the NC

Words: Bob de Bont

An astute buyer can purchase some very good tyres for the NC if they do a little thinking outside the, er, circle.

Research indicates the price listed for tyres is not linked to the physical size of the tyre. The price is dictated by the number of cars fitted with that size tyre and the volume sold.

Mazda has fitted some unique size tyres to various MX-5s over the years, none more so than the **205/45xR17** fitted to the NC.

For comparison purpose, the current 2015 price from a well-known tyre retailer for the *Bridgestone RE003* is \$259 each and for the *Michelin Pilot Sport 3* is \$249 each. A full set would cost about \$1000.

An alternative tyre size which has

become popular for those in the know is the **215/45xR17** which is fractionally larger, fits well on the stock rim and is substantially cheaper. Current 2015 price from the same well-known tyre retailer for the *RE003* is \$177 each and for the *Pilot Sport 3* is \$159 each, about \$700 for a set and a saving of approximately \$300!

The performance difference is negligible; however the cheaper price allows a better quality tyre to be purchased for the same hard-earned dollar.

One thing to note is the car's speedo does become a little more accurate.

Legal aspects regarding changing tyre

size is covered by Vehicle Standards Bulletin 14¹, and Rule 4.2.4 states the replacement tyre must not be more than 15mm larger or 26mm smaller in diameter than that of any tyre designated by the vehicle manufacturer for that model.

The **205/45xR17** has an outside diameter of 616mm and the **215/45xR17** an outside diameter of 626mm. The difference is 10mm or approximately 1.2%, well within the legal requirement. ■

¹ https://infrastructure.gov.au/roads/vehicle_regulation/bulletin/pdf/NCOP11_Section_LS_Tyres_Suspension_Steering_V2_1Jan_2011%20v3.pdf

■ **Please note:** All "Tech Talk" information is provided as a guide only. All work is carried out at the owner's risk.